

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/807,070  
Applicants : Jogesh WARRIOR et al.  
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Title: METHOD OF OPERATING SENSOR NET AND  
SENSOR APPARATUS

**COMBINED NOTICE OF NON-COMPLIANT EXAMINER'S ANSWER  
AND REPLY BRIEF**

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Sir:

In response to the Examiner's Answer dated 16 December 2008 and in support of the Notice of Appeal filed on 25 April 2008, Applicants hereby respectfully submit this Combined Notice of Non-Compliant Examiner's Answer and Reply Brief.

**NOTICE OF NON-COMPLIANT EXAMINER'S ANSWER**

The Examiner's Answer mailed on 16 December 2008 is not compliant with USPTO rules because it fails to clearly and unambiguously indicate the status of the claims, and fails to fairly apprise Applicants of the claims that remain under Appeal. In particular, the Examiner's Answer is replete with contradictory indications as to which claims remain rejected and under Appeal.

On page 2, line 8, the Examiner states that "*The statement of the status of*

*claims contained in the brief is incorrect.*" Applicants respectfully submit that the Status was indeed correct when the Appeal Brief was filed by Applicants. As best as Applicants can discern from the confusing Examiner's Answer, after reading the Appeal Brief the Examiner decided to withdraw the rejections of some of the claims (although exactly which claims one cannot tell for a certainty because of contradictory statements in the Examiner's Answer which will be discussed below).

However, the Examiner fails to state what the correct status is. Applicants believe that this is an error in the Examiner's Answer.

This error becomes more significant because of the contradictory indications through the Examiner's Answer as to which claims remain rejected and under Appeal. For example, on page 2, lines 9-11 the Examiner states that:

*"Claims 5-9 and 24 are objected as being dependent upon a rejected base claim"*

(emphasis added). In apparent contradiction, on page 3, lines 4-6, the Examiner states:

*"The 35 U.S.C. 102 rejections of claims 6-9, 13 and 24 and the 35 U.S.C. 103 rejections of claims 5 and 26 have been withdrawn"*

(emphasis added). Then, on page 4, lines 2 the Examiner states that:

*"Claims 1-3, 10-12, 14-17, 19-24, 35, 27 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Sorokine et al."*

(emphasis added). Finally, Applicants note that there is no substantive discussion of the rejection of claim 24 under 35 U.S.C. 102(b) in the body of the Office Action.

How are Applicants and the Board supposed to sift through these confusing and contradictory statements to determine exactly which claims the Examiner has

removed from this Appeal?

For the purposes of this Reply Brief, Applicants assume that the Examiner has withdrawn the rejections of claims 5-9, 13, 24 and 26, and that the claims remaining on Appeal are claims 1-4, 10-12, 14-23, 25, 27 and 28. In the event that this understanding is wrong, Applicants respectfully request an opportunity to file another Reply Brief to address any rejected claims which are not addressed in this Brief.

### **REPLY BRIEF ARGUMENTS**

#### **(1) Claims 1-3, 10-12, 14-17, 19-23, 25, 27 and 28 Are Patentable Over Sorokine**

##### **Claim 1**

Among other things, the method of claim 1 includes calculating a respective probability of future access by a mobile device for each of a plurality of nodes in a sensor net in response to detected access attempts by one or several mobile devices to the plurality of nodes.

Applicants note that the Examiner has apparently abandoned her earlier contention that these features are disclosed by Sorokine at col. 10, lines 58-62 and col. 7, lines 15-18, as she fails to cite either of these portions of Sorokine in her "Response to Argument" section of the Examiner's Answer at page 11, lines 7-15. Instead, the Examiner now relies upon col. 7, lines 9-11 and col. 9, line 1.

Here is the text at col. 7, lines 9-11, and at col. 9, line 1:

In the cdma2000 family of standards, each MS sends reverse-link channel strength signal on the reverse pilot channel ("R-PICH") in the Traffic State to the BS which<sup>10</sup>

### **9**

and prediction techniques on the R-PICH data, and thus

There is no mention in the two portions of text reproduced above of calculating a respective probability of future access by a mobile device for each of a plurality of

nodes in a sensor net in response to detected access attempts by one or several mobile devices to the plurality of nodes.

The Examiner states – without citation – that Sorokine explains that calls made from an MS to a BS run on a reverse channel (R-PICH) in a traffic state. However, the very text above cited by the Examiner actually teaches that R-PICH is a reverse pilot channel – not a traffic channel. The Examiner goes on to state –again without any citation – that “*the traffic state indicates the amount of activity over the channel during a period of time.*” The undersigned attorney does not see any mention of this in Sorokine (indeed, a simple word search for the word “activity” reveals that this word is not even used anywhere in Sorokine!). Nor is the significance of this statement – even if it was true – clear.

The Examiner further states that the data from the R-PICH is subjected to prediction techniques which are used to search a neighbor list to determine the highest likelihood (i.e., calculated probability) for the best handoff of the mobile access to the most active base station (i.e., future access).

Applicants traverse the Examiner's attempt to equate determining base stations which have a higher likelihood to be successful handoff candidates for a mobile station, to calculating a respective probability of future access by a mobile device for each of a plurality of nodes in a sensor net. For example, it is apparent that (in general) base stations which report greater reverse pilot channel signal strengths from a mobile station have “higher likelihoods” to be successful handoff candidates for the mobile station. However, determining those signal strengths does not involve calculating any probabilities. And even more specifically, it does not calculate any respective probabilities of actual future access by the mobile device for any of the base stations.

Furthermore, in the method of claim 1, the probabilities are calculated in response to detected access attempts by one or several mobile devices to the plurality of nodes.

In stark contrast, the “likelihood” that a base station could be a good handoff candidate is calculated based on channel predictive models and on signal strengths reported by various base stations that monitor the mobile station's R-PICH signal,

and not in response to detected access attempts by one or several mobile devices to the plurality of nodes. In that regard, the Board's attention is respectfully directed to col. 7, lines 55-65 where it is explained that the mobile station establishes a call with one base station 20, and then the BSC instructs a bunch of other base stations 21, 22, 23, 24, 25 and 26 that are NOT being accessed at all by the mobile station to monitor the mobile station's R-PICH signal and transmit the monitored data to the base station controller, where it is used to generate an effective neighbor list (but not to calculate any probability of future access).

Sorokine does not calculate a respective probability of future access by a mobile device for each of a plurality of nodes in a sensor net in response to detected access attempts by one or several mobile devices to the plurality of nodes.

Additionally, the method of claim 1 includes communicating information related to these calculated probabilities through the sensor net.

The Examiner further tries to equate an R-PICH measurement to "calculated probabilities." An R-PICH measurement is a signal strength measurement. It is not a calculated probability of anything – and especially not a calculated probability of future access by a mobile device for each of a plurality of nodes in a sensor net. Furthermore, the fact that the "*neighbor list is searched*" does not magically transform it into any a calculated probability of anything.

Sorokine simply does not teach communicating information related to the calculated probabilities of future access through a sensor net.

Finally, the Examiner states that Sorokine teaches that the base station controller transmits the effective neighbor list to a base station. The Examiner seems to think that the effective neighbor list corresponds to the "measurement data" recited in claim 1. Unfortunately, the Examiner completely fails to explain how the effective neighbor list is supposedly routed "using calculated probabilities" as recited in claim 1.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is clearly patentable over Sorokine.

Claim 2

An effective neighbor list is a list of base stations which may be candidates for future handoff for a particular mobile station. A list of base stations is not "probabilities of future access from a mobile device."

Accordingly, Applicants respectfully submit that claim 2 is clearly patentable over Sorokine.

Claim 12

A neighbor list is not a **group** probability of access to at least one of a plurality of multiple destination collection points.

R-PICH measurements are pilot signal strength measurements, and are not group probabilities of anything.

Accordingly, Applicants respectfully submit that claim 12 is clearly patentable over Sorokine.

Claim 16

At long last, it appears that the Examiner has finally settled upon Sorokine's base station as supposedly corresponding to the sensor of claim 16. See Examiner's Answer at page 14, lines 15-17 ("*Because the base station collects data . . . the base stations act as the sensors within the network*").

Applicants respectfully disagree.

Among other things, the sensor device of claim 16 includes means for calculating a probability of future access by a mobile device to the sensor device utilizing recorded attempts to access measurement data by mobile devices; means for receiving information related to probabilities of future access associated with other sensor devices within the sensor net; and means for communicating information related to probabilities of future access to other sensor devices.

As explained above with respect to claim 1, Applicants respectfully submit that Sorokine does not disclose calculating a probability of future access by a mobile device to a sensor device utilizing recorded attempts to access measurement data by mobile devices. Thus, Sorokine also fails to disclose any sensor device that includes any means for calculating a probability of future access by a mobile device to the (very same) sensor device utilizing recorded attempts to access measurement data

by mobile devices.

**Furthermore, for the record, it is also noted that in Sorokine the “likelihood” of a base station being a good candidate for soft switchover is determined by the base station controller 31, and not by any base station – which the Examiner has now identified as supposedly corresponding to the sensor device of claim 16.** Therefore Sorokine’s base station lacks the means for determining this likelihood, and by the Examiner’s own arguments cannot correspond to the sensor of claim 16.

Furthermore, as explained above with respect to claim 1, Applicants respectfully submit that Sorokine does not disclose that any base station also includes any means for receiving information related to probabilities of future access associated with other base stations within the sensor net.

Additionally, as explained above with respect to claim 1, Applicants respectfully submit that Sorokine does not disclose that any base station also includes any means for communicating information related to probabilities of future access **to other base stations.** Indeed, in the “Response to Arguments” section the Examiner completely ignores this plainly recited feature of claim 16.

Finally, as explained above with respect to claim 1, Sorokine does not disclose that any base station also includes any means for routing measurement data within a sensor net in response to any means for calculating a probability of future access and means for receiving information related to probabilities of future access associated with other base stations.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 16 is clearly patentable over Sorokine.

**Claim 17**

Among other things, the sensor device of claim 17 includes means for receiving probabilities of future access **from a mobile device**, wherein said means for routing further operates in response to said means for receiving probabilities from a mobile device.

The Examiner states that the base station receives an effective neighbor list

from a base station controller.

It should go without saying that a base station controller is not a mobile device.

Accordingly, Applicants respectfully submit that claim 17 is clearly patentable over Sorokine.

Claim 20

Among other things, in the sensor device of claim 20, the means for communicating selects the subset of sensor devices in relation to respective probabilities of access to said subset of sensor devices and a cost function.

The Examiner states that col. 8, lines 31-44 of Sorokine teaches that the mobile stations select the base stations based on "performance cost."

Respectfully, no it doesn't.

The cited text discloses that the extra cost for a BS to perform R-PICH estimation as taught by Sorokine yields an improved F-PICH estimation at a mobile station.

Accordingly, Applicants respectfully submit that claim 20 is clearly patentable over Sorokine.

Claim 25

Among other things, the method of claim 25 includes determining probabilities of future access by mobile devices to nodes of a sensor net.

As explained above with respect to claim 1, Applicants respectfully submit that a likelihood that a particular BS would be a good candidate for soft handoff by a MS is not a probability that a node will be accessed in the future by a mobile device. Applicants respectfully submit that Sorokine does not disclose determining probabilities of future access by mobile devices to nodes of a sensor net.

Also as explained above with respect to claims 1 and 16, Sorokine does not disclose distributing information related to such determined probabilities through a sensor net. In that regard, it is again noted that set point values which are determined by a MS to meet a particular target frame error rate are not related to a likelihood – determined by a BSC 31 – that a neighboring BS will be a good candidate for a soft handoff from a particular serving BS.



Finally, as also explained above with respect to claim 1, Sorokine does not disclose routing any measurement data utilizing the distributed information related to the determined probabilities.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 25 is clearly patentable over Sorokine.

**(2) Claims 4 and 18 Are All Patentable Over Sorokine in view of Raith**

Claims 4 and 18 depend variously from claims 1 and 16 and are deemed patentable for at least the reasons set forth above with respect to claims 1 and 16, and for the following additional reasons.

In the Appeal Brief, Applicants traversed the proposed combination of Sorokine and Raith as lacking any articulated purpose or reason with rational underpinnings.

A rejection on obviousness grounds under 35 U.S.C. § 103 cannot be sustained by mere conclusory statements: instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. See M.P.E.P. § 2142 (quoting In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006) and KSR 82 USPQ2d at 1396 (2007) (quoting Federal Circuit statement with approval)).

Applicants respectfully submit that the present rejection is not based on an articulated reasoning with any rational underpinnings, but instead is based only on an unsupported conclusory statement.

The text cited in Raith at col. 8, lines 55-61 merely states that a reason for initiating call handoff may be stored in memory, and one exemplary reason for a handoff would be to avoid barring new call attempts. That is all. Nothing in this text even remotely suggests that calculating a time window average of detected access attempts to a node of a sensor net; or correlating probabilities of access to a time of day, would somehow avoid barring new call attempts.

**The Examiner did not respond at all to this argument.**

Accordingly for at least this additional reason, Applicants respectfully submit that claim 4 is patentable over the cited art.

Claim 18

Among other things, in the sensor device of claim 18 probabilities of future access by a mobile device to a sensor device are correlated to a time of day.

Raith merely discloses that characteristics of handoffs may be stored in memory, including the time of day when the handoff occurred. Raith does not disclose or suggest that probabilities of future access by a mobile device to a sensor device are correlated to a time of day.

Accordingly, Applicants respectfully submit that no combination of Sorokine and Raith would ever produce the sensor device of claim 18 including this feature.


For all of the foregoing reasons, Applicants respectfully request that all claim rejections be withdrawn, that all pending claims be allowed, and the application be passed to issue.

If necessary, the Commissioner is authorized to charge any fee required for filing this Reply Brief to Deposit Account 50-0178.

Respectfully submitted,

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